

CLAIMS

What is claimed is:

1. A hollow fan blade half comprising:

a substrate having a root edge and an opposite tip spaced radially outward from the root, the substrate further including a leading edge opposite a trailing edge, the leading edge spaced chordwise from the trailing edge; and

a first rib and a second rib formed on the substrate, the first rib including a flared end.
2. The hollow fan blade half of claim 1 further including an elongated, continuous cavity between the first rib and the second rib, the first rib substantially parallel to the second rib.
3. The hollow fan blade half of claim 1 wherein the cavity extends continuously along a first path adjacent the first rib and then around the flared end.
4. The hollow fan blade half of claim 3 wherein the cavity extends continuously from the flared end along a second path between the first rib and the second rib.
5. The hollow fan blade half of claim 4 wherein the cavity extends continuously around an end of the second rib.

6. The hollow fan blade half of claim 1 wherein the flared end is a portion of increased thickness.

7. The hollow fan blade half of claim 6 further including a plurality of the first ribs alternating with a plurality of the second ribs and wherein the cavity extends continuously in a serpentine path around each flared end of each of the plurality of first ribs and around an end of each of the plurality of second ribs.

8. The hollow fan blade half of claim 7 wherein the plurality of first ribs and the plurality of second ribs are at least substantially parallel and wherein the flared ends of the first ribs are staggered.

9. The hollow fan blade half of claim 8 wherein a width of the continuous cavity remains constant along the serpentine path.

10. The hollow fan blade half of claim 7 wherein the plurality of first ribs and the plurality of second ribs are at least substantially parallel, wherein a width of the continuous cavity remains constant along the serpentine path, and wherein the second ribs are thinner near the flared ends of the first ribs.

11. The hollow fan blade half of claim 7 wherein the plurality of first ribs and the plurality of second ribs do not intersect one another.

12. The hollow fan blade half of claim 7 wherein the plurality of first ribs and plurality of second ribs are each freestanding, such that they do not intersect any other ribs.

13. The hollow fan blade half of claim 1 wherein the plurality of ribs are parallel in a region adjacent the root edge.

14. A hollow fan blade including a pair of joined hollow fan blade halves according to claim 1 wherein ribs in one of the pair of hollow fan blade halves are joined to corresponding ribs in the other of the pair.

15. A gas turbine engine including a plurality of the hollow fan blades of claim 14.

16. The hollow fan blade half of claim 15 wherein the elongated cavities on either side of each of the plurality of ribs are continuous with one another around at least

17. A method for making a hollow fan blade including the steps of:
- a. machining a continuous cavity on a first substrate around a first rib, the continuous cavity following a path around a flared end of the first rib; and
 - b. abutting the plurality of ribs on the first substrate with a second substrate to form a hollow fan blade.

18. The method of claim 17 wherein said step a) further includes machining the continuous cavity in a serpentine path to form a plurality of first ribs and a plurality of second ribs, the serpentine path extending continuously around the flared end of each of the plurality of first ribs.

19. The method of claim 17 further including the step of forming a first rib on the second substrate and wherein said step b) further includes the step of abutting the first rib on the first substrate with the first rib on the second substrate.

20. The method of claim 1 wherein the plurality of ribs do not intersect one another.